WHAT IS CLAIMED IS:

1. A Nd-Fe-B type rare earth magnet alloy comprising:

hard magnetic phases and soft magnetic phases;

wherein a minimum width of the soft magnetic phases is smaller than or equal to 1 μm and a minimum distance between the soft magnetic phases is greater than or equal to 0.1 μm.

2. The Nd-Fe-B type rare earth magnet alloy as claimed in claim 1, wherein a composition of the Nd-Fe-B type rare earth magnet alloy is expressed by the following chemical formula (1)

$$Nd_xFe_{100-x-y-z}B_yV_z \qquad \text{---(1)}$$

where x is within a range from 9 to 11, y is within a range from 5 to 8 and z is within a range from 0 to 2.

3. The Nd-Fe-B type rare earth magnet alloy as claimed in claim 2, wherein 0.01 to 80 atom% of Nd is replaced with Pr.

4. The Nd-Fe-B type rare earth magnet alloy as claimed in claim 2, wherein 0.01 to 10 atom% of Nd is replaced with Dy or Tb.

5. The Nd-Fe-B type rare earth magnet alloy as claimed in claim 2, wherein 0.01 to 30 atom% of Fe is replaced with Co.

6. The Nd-Fe-B type rare earth magnet alloy as claimed in claim 2, wherein Fe or Co are replaced by at least one element selected from the group consisting of Al, Mo, Zr, Ti, Sn, Cu, Ga and Nb, a summed amount of the at least one element being 0.1 to 3 atom% of a total amount of the Nd-Fe-B type rare earth magnet alloy.

7. The Nd-Fe-B type rare earth magnet alloy as claimed in claim 1, wherein the Nd-Fe-B type rare earth magnet alloy is a thin strip crystalline alloy produced by a strip casting method.

8. The Nd-Fe-B type rare earth magnet alloy as claimed in claim 7, wherein a thickness of the thin strip alloy is within a range from 30 to 300 μm.

9. Powder of a Nd-Fe-B type rare earth magnet alloy comprising:

hard magnetic phases and soft magnetic phases,

wherein a minimum width of the soft magnetic phases is smaller than or equal to 1 μm and a minimum distance between the soft magnetic phases is greater than or equal to 0.1 μm.

10. The powder as claimed in claim 9, wherein the powder is produced by pulverizing the Nd-Fe-B type rare earth magnet alloy by means of a ball mill.

11. The powder as claimed in claim 9, wherein the powder is heat treated within a range from 500 to 800 °C.

12. A method of producing powder of a Nd-Fe-B type rare earth magnet alloy which comprises hard magnetic phases and soft magnetic phases wherein a minimum width of the soft magnetic phases is smaller than or equal to 1 μm and a minimum distance between the soft magnetic phases is greater than or equal to 0.1 μm, the method comprising:

pulverizing the Nd-Fe-B type rare earth magnet alloy by means of a ball mill using a dispersant under a non-oxidation atmosphere.

13. The method as claimed in claim 12, wherein the ball mill is of a wet type.

14. The method as claimed in claim 12, wherein the ball mill is of a dry type.

15. A method of producing a Nd-Fe-B type anisotropic exchange spring magnet, comprising:

obtaining powder of a Nd-Fe-B type rare earth magnet alloy which comprises hard magnetic phases and soft magnetic phases wherein a minimum width of the soft magnetic phases is smaller than or equal to 1 μm and a minimum distance between the soft magnetic phases is greater than or equal to 0.1 μm;

obtaining a compressed powder body by compressing the powder at a compressing pressure ranging from 1 to 5 ton/cm^2 in a magnetic field ranging from 15 to 25 kOe; and

obtaining a bulk magnet by sintering the compressed powder body at a temperature ranging from 600 to 800 °C and at a compressing pressure ranging from 1 to 10 ton/cm^2 in a discharge plasma sintering unit.

16. The method as claimed in claim 15, wherein the powder is obtained by pulverizing the Nd-Fe-B type rare earth magnet alloy by means of a ball mill.

17. A Nd-Fe-B type anisotropic exchange spring magnet produced by a method of obtaining powder of a Nd-Fe-B type

rare earth magnet alloy which comprises hard magnetic phases and soft magnetic phases wherein a minimum width of the soft magnetic phases is smaller than or equal to 1 μm and a minimum distance between the soft magnetic phases is greater than or equal to 0.1 μm; obtaining a compressed powder body by compressing the powder at a compressing pressure ranging from 1 to 5 ton/cm^2 in a magnetic field ranging from 15 to 25 kOe; and obtaining a bulk magnet by sintering the compressed powder body at a temperature ranging from 600 to 800 °C and at a compressing pressure ranging from 1 to 10 ton/cm^2 in a discharge plasma sintering unit.

18. The Nd-Fe-B type anisotropic exchange spring magnet as claimed in claim 17, wherein a density of the anisotropy exchange spring magnet is 95% of a true density of a magnet alloy having a composition as same as that of the anisotropic exchange spring magnet.

19. A motor comprising:

a Nd-Fe-B type anisotropic exchange spring magnet produced by a method of obtaining powder of a Nd-Fe-B type rare earth magnet alloy which comprises hard magnetic phases and soft magnetic phases wherein a minimum width of the soft magnetic phases is smaller than or equal to 1 μm and a minimum distance between the soft magnetic phases is greater than or equal to 0.1 μm, obtaining a compressed powder body by compressing the powder at a compressing pressure ranging from 1 to 5 ton/cm^2 in a magnetic field ranging from 15 to 25 kOe, and obtaining a bulk magnet by sintering the compressed powder body at a temperature

ranging from 600 to 800 °C and at a compressing pressure ranging from 1 to 10 ton/cm^2 in a discharge plasma sintering unit.